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January 3, 2001

Honorable Commissioner of Patents
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Washington, D.C. 20231

RE: Appeal Brief in U.S. Patent Application Serial 09/054565
Filing date 04/03/98
Rule for a Cutting Die

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Dear Sir or Madam:

In response to the official office action of December 4, 2000 submitted herewith in triplicate is a new brief in compliance with 37 C.F.R. 1.192 (c).

In the office action the patent office has noted that the brief omits the statement required by 37 C.F. R. 1.192(c) (7) that one or more claims do not stand or fall together. This in the attached briefs has been rectified.

Further, the office action notes that the summary of invention lacks specific reference to the specification by page and line number and specific drawings. This has been addressed.

Further, the brief includes a statement concerning the grouping of claims.

It is believed that the present briefs comply fully with 37 C.F.R. 1.192 (c).

Respectfully submitted,

Larry L. Coats

LLC/cjw
Enclosures
P3489-027

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

JACK SIMPSON

Serial No. 09/054,565

Filing Date: April 3, 1998

For: **RESILIENT SCRAP STRIPPER FOR A
CORRUGATED BOARD ROTARY
CUTTING DIE**

Attorney Docket No. P3489.027



Goodman, C.
Examiner
Art Unit 3724

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APPEAL BRIEF

(1) REAL PARTY IN INTEREST

The real party in interest is Container Graphics Corporation, the Assignee of the present application.

(2) RELATED APPEALS AND INTERFERENCES

There is no related appeals or interferences to the best of Applicant's knowledge.

(3) STATUS OF CLAIMS

There are twenty-three (23) claims pending in this case. They are claims 1-21, 24, and 26. All of these claims stand rejected and all of these claims except claims 11, 12 and 13 are being appealed herein. Accordingly, claims 1-10, 14-21, 24 and 26 are being appealed from the final rejection of the examiner.

(4) STATUS OF AMENDMENTS

Concurrently herewith, counsel for Applicant is submitting an amendment with respect to claim 8 of the present application. This amendment addresses 35 U.S.C. § 112 concerns and it is respectfully urged places the application in better condition for appeal.

(5) SUMMARY OF INVENTION

The present invention provides a resilient scrap stripper 10 for a rotary die 40 that cuts corrugated board CB (fig.1). The scrap stripper 10 includes a base 12 that is secured to a die board 52 and an angled flexible finger 22 integral with the base 12 and which extends outward therefrom. Spec. p. 10, l. 15-21 and p. 11, l. 1-4. The finger 22, in a noncompressed position (fig. 2), extends at an angle outwardly past the terminal edge of an adjacently disposed scrap blade 56. During the cutting operation, the scrap stripper 10 is disposed between a rotary cutting die 40 and the corrugated board CB been passed between an anvil 60 and the rotary cutting die 40. As the scrap stripper 10 enters the nip 64 between the die board 52a and the anvil 60, the entire stripper 10, including the base 14 and the angled finger 22, is compressed such that adjacently disposed scrap blades cuts selective pieces of scrap from the corrugated board CB blank passing through the nip (figs. 4A and 4B) Spec., p. 12, l. 5-20 and p. 13, l. 1-2. As the scrap stripper 10 exits the nip 64, the stripper 10 finds itself still disposed between the cut scrap piece and the cutting die 40. However, as a scrap stripper 10 exits the nip 64, the same will expand and as it expands it will strip the underlying piece of cut scrap from the adjacent blade or blades (figures 4C and 4D) Spec. p. 13, l. 11-21. In addition, the angled finger 22 that forms a part of the scrap stripper 10 will tend to extend and in this process the flexible angled finger 22 will engage and push the cut scrap piece against the underlying and rotating anvil 60. The ability of the angled finger 22 to extend substantially beyond the

height of the cutting blade or blades enables the flexible finger to hold the cut scrap piece against the anvil 60 on the downstream side of the nip 64. Thus, it follows, this causes the cut scrap to be separated from the corrugated board product and to be directed generally downwardly alongside the downstream side of the anvil 60.

(6) ISSUES

Are claims 8-14, 16-17, 19 and 26 unpatentable under 35 U.S.C. § 112?

Are claims 1-21, 24 and 26 unpatentable under 35 U.S.C. § 103(a) in view of Smithwick, Jr., et. al. in view of Rlitz et. al.?

(7) GROUPING OF CLAIMS

Claims 1-21, 24, 25 stand rejected under 35 U.S.C. 103 (c) in view of Smithwick, Jr., et. al. and Rilitz, et. al. The claims of the group do not stand or fall together.

For purposes of this appeal, the claims should be grouped as follows:

Group 1: Claims 1, 3, 5, 7

Group 2: Claim 2

Group 3: Claim 4

Group 4: Claim 6

Group 5: Claims 8, 9 and 10

Group 6: Claim 14

Group 7: Claims 15, 16, 18, 20 and 21

Group 8: Claim 17

Group 9: Claim 19

Group 10: Claim 24 and 26

(8) ARGUMENT

**A. CLAIMS 8-14, 16,17, 19 and 26 ARE NOT UNPATENTABLE UNDER
35 U.S.C. § 112**

First, with respect to claim 8 and the use of the word “it”, an amendment has been prepared and filed with the patent office addressing this concern. That is, the word “it” has been replaced in both instances by the structure being referred to.

The Examiner in claim 8 also takes the position that the claim is vague and indefinite because there is no antecedent basis for the phrase “the direction of movement”. There is no need for any antecedent basis here. The phrase being referred to is not an element of the claim but simply describes that the angled finger acts to control the direction of movement of the scrap piece as it exits the nip. There is nothing vague or indefinite about that phrase.

Additionally, with respect to claim 9 the Examiner takes a position that “the height” lacks antecedent basis. Further, the Examiner maintains that other phrases such as “the direction of travel of the cutting die”, and “the influence of centrifugal force” lacks antecedent basis. Again, there is nothing vague and indefinite about the use of these phrases in the claims of concern. Again, the phrases are not elements of the claim but define a general environment and set forth or explain how certain elements act or move in accordance with the present invention.

The Examiner takes the position that claims 11, 12 and 13 do not further limit the invention as set forth in claim 8. The position of the Examiner here is well taken. Accordingly, counsel for Applicant consents to the canceling of claims 11, 12 and 13, and will formerly do so in short course.

**B. CLAIMS 1-21, 24 AND 26 ARE NOT OBVIOUS IN VIEW OF
SMITHWICK, JR, et. al. AND RILITZ, et. al.**

**1. There is Absolutely No Suggestion or Motivation to Combine the
Teachings of Smithwick and Rilitz and Accordingly the Combination
is Improper and the Resulting Rejection is Flawed.**

The Examiner has combined the teachings of Smithwick and Rilitz and maintained that the combined teachings of these patents render all of the pending claims obvious as a matter of law.

A close scrutiny of the combination reveals that it is flawed from the outset. Namely, there is no reason, nor suggestion, nor motivation for combining the Smithwick reference with the Rilitz reference. The only reason to attempt such a combination is to attempt to reconstruct Applicant's invention by hindsight and that is an improper reason for making such a combination.

There is no doubt that the Smithwick reference relates to cutting dies for corrugated board and further relates to ejecting scrap pieces from cut corrugated board. However, the Rilitz patent does not relate to cutting corrugated board, corrugated board cutting dies, or to scrap ejection at all. A close study of the Rilitz patent shows that it relates to an apparatus for cross-cutting running webs. The Examiner points to two guides, 13 and 14 and incorrectly refers to them as flexible fingers in the context of the present invention. However, these guides 13 and 14 have nothing whatsoever to do with a cutting die for corrugated board or scrap ejection. Indeed, as the Rilitz patent explains, "the guide 13 can steer the adjacent portion of the web towards the locus where the

cutting edge 18a, 11a of the knives 8, 11 cooperate once during each revolution of the conveyors to sever the web 3 and to separate a length 26 of the flexible material from the thus obtained leader 25 at the front end of the remaining portion of the web". Rilitz, col. 4, l. 44-49. In other words, the guide 13 simply steers a portion of the web towards a point where the knives come together and cut the web. They are indeed guides and not flexible fingers that eject scrap.

The Examiner attempts to explain the motivation for the combination by saying it would have been obvious to a person of ordinary skill of the art to provide Smithwick with the guides 13 and 14 of Rilitz in order to enhance the absorption of the compressive forces without compromising the longitudinally directed force required to free the scrap. First, this single sentence explaining the motivation cannot be understood. Applicant is at a loss as to what the Examiner is attempting to communicate here. From the appearance of the guides 13 and 14, it is doubtful that they could under any circumstances enhance the absorption of any compressive forces, especially compared with the thick and robust lugs of the Smithwick patent. In short, there is indeed no motivation for combining these two patents. The Examiner has simply attempted to reconstruct Applicant's invention by hindsight and for that reason alone, the rejection of all of the claims in this case must be reversed.

**2. Even If Properly Combinable, Smithwick and Rilitz Failed to Render
Obvious The Claims of the Present Application.**

Claim 1 defines a scrap stripper including a base and a flexible finger integral with a base and extending outwardly over the base at an acute angle with respect to the

base such that an opening is defined between the angled finger and the base. This is particularly illustrated in figures 2 and 3a. Obviously the Smithwick patent does not show a scrap stripper of this design. Specifically, it does not show a flexible finger extending from the base at an acute angle to define an opening between the angled finger and the base. Further, as defined in paragraph (e) of claim 1, there is no teaching of a flexible finger that is movable between a retracted position where the finger lies adjacent to the base and an extended position where at least a portion of the finger is separated from the base.

Likewise, the Rilitz patent does not even show a rotary cutting die having a scrap stripper. Again, the guides 13 and 14 have nothing whatsoever to do with stripping scrap from a cut blank of corrugated board. Further, even if Rilitz taught a scrap stripper, still it does not show the flexible finger extending off from a base at an acute angle as shown and illustrated in figures 2 and 3a. For that reason, claim 1 and the claims grouped therewith, namely claims 3, 5 and 7 define patentable subject matter.

Claim 3 calls for the cutting die to be designed to rotate in a certain direction and wherein the flexible finger is angled away from that direction. Again the lugs of Smithwick do not meet the limitation of the base and the flexible finger with the opening lying therebetween, and certainly does not teach the particular angle or angling of the finger with respect to the direction of travel of the cutting die.

Claim 4 defines the present invention and notes that in the retracted position the finger assumes a compressed state such that the finger and the base can be compressed together as the same passes through the nip. For the same reasons advanced above, Smithwick does not even include a flexible finger extending off from the base at an acute

angle with an opening between the finger and the base. Rilitz does not even teach the compression of the guides. A review of figures 1 and 2 of Rilitz does not even show that the guides are compressed. Indeed the guides are simply guides as they tend to guide the web into place for cutting by the knives. There is no reason for the guides to be compressed so as to eject scrap since they are not scrap ejectors.

Claim 6 calls for the finger to expand upon moving from the nip such that the finger separates from the base and engages and holds the cut piece of scrap adjacent the anvil such that the anvil acts to direct cut scrap away from the die cutting board and anvil. Essentially, what is occurring here is that the finger as it expands from the compressed state, engages the cut scrap and holds it against the anvil such that the scrap can be directed generally downwardly and away from the finished corrugated board. This effectively separates the cut scrap from the finished corrugated board product. Again, neither Smithwick nor Rilitz teach this feature of Applicant's invention. Again, there is no compression of a flexible finger in either reference and certainly there is no flexible finger that when it expands holds the cut scrap against the anvil such that the anvil discharges the cut scrap in a certain direction that effectively separates the cut scrap from the product.

Claim 8, to some extent, parallels claim 1 inasmuch as it is a method of cutting corrugated board utilizing a scrap stripper having a base and a flexible finger where the flexible finger extends outwardly from the base at an acute angle so as to define an opening between the angled finger and the base. However, the claim goes on to call for compressing the scrap stripper between the cutting die and the scrap piece by bending and compressing the finger against the base, closing the opening and compressing both

the finger and the base. The claim goes on in paragraph (e) and (f) to set forth expanding the scrap stripper and extending the flexible finger outwardly for engaging the cut scrap piece so as to hold these cut scrap pieces against the anvil so as to control its direction of movement from the cutting die. As discussed herein, since neither Smithwick nor Rilitz includes a scrap stripper with a flexible finger that extends at an acute angle to a base to define an opening therebetween, claim 8 clearly defines over the Smithwick and Rilitz references. Further, the expanding step and the extending step are certainly new and nonobvious and not taught by either reference.

Claim 14 will be amended to depend from claim 8 and recites that the angle formed between the base and the finger is approximately 30 to 75 degrees. Again, since there is no angle formed in the Smithwick reference and since the Rilitz patent does not show a scrap stripper, their claim 14 is clearly patentable over the teachings of these two references.

Turning to claim 15 the same recites the scrap stripper having a base and a flexible portion extending outwardly over the base at an acute angle and being movable back and forth between extended and retracted positions. Moreover, the claim recites an open relief area defined intermediately between the outer portion and the base that permits the outer flexible portion to flex back and forth between the extended and retracted positions. Clearly, the lugs in Smithwick do not meet this claim structurally or functionally. Again, the Rilitz patent does not disclose an open relief area defined intermediately between an outer portion and a base portion. Indeed, as already set forth, the guides 13 and 14 of Rilitz are in no way scrap ejectors as called for in claim 15. They

are simply guides to position the web in place for cutting. They serve no scrap ejection function or any ejection function at all.

Claim 17 calls for a flexible finger disposed at an angle with respect to the base. This point has been argued before with respect to claim 1 and for the same reason set forth above there is no teaching in either Smithwick or Rilitz that would render the invention of claim 17 obvious. Likewise claim 17 further defines the open relief area being formed by a portion of the angled finger and a portion of the base and where the open relief area is open along one side opposite where the finger and base merge. Again, that claim defines the structure of the scrap ejector as exemplified in figures 2 and 3a. Certainly, there is no teaching in either Smithwick or Rilitz that renders that claimed invention obvious as a matter of law.

Finally, claim 24 calls for the scrap stripper to be selectively weighted. The Examiner does not even address this claim. There is no teaching in Smithwick or Rilitz that even remotely suggests selectively weighting these scrap strippers. Clearly, claim 24 and the claim depending therefrom, claim 26, is non-obvious and patentable.

Conclusion

For the foregoing reasons, claims 1-10, 14-21, 24 and 26 are patentable and the rejection of these claims must be reversed.

Respectfully submitted,

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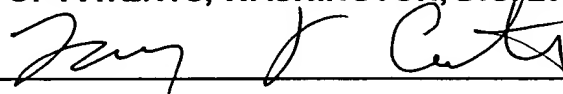
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

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(9) APPENDIX

CLAIMS

What is claimed is:

1.  A rotary die cutting for cooperating with a rotary anvil to cut corrugated board comprising:

- (a) a base;
- (b) at least one scrap cutting blade secured to the base of the cutting die for cutting a piece of scrap from a sheet of corrugated board that is directed through a nip defined between the cutting die and the anvil;
- (c)  at least one scrap stripper mounted to the base adjacent the blade for stripping a cut scrap piece from the blade and for urging the cut scrap piece against the anvil as the cut scrap piece exits the nip;
- (d)  at least one scrap stripper being constructed of a resilient material and including a base, and a flexible finger integral with the base and extending outwardly over the base and at an acute angle with respect to the base such that an opening is defined between the angled finger and the base; and
- (e) wherein the flexible finger is movable between a retracted position where the finger lies adjacent the base and an extended position where at least a portion of the finger is separated from the base.

2. The rotary cutting die of claim 1 wherein the finger forms an acute angle of approximately 30-75 degrees with the base.

3. The rotary die cutting board of claim 1 wherein the die cutting is designed to rotate in a certain direction and wherein the finger is angled away from said direction.

4. The rotary cutting die of claim 1 wherein in the retracted position the finger assumes a compressed state and when compressed, the finger is pushed into contact with the base such that both the finger and base can be compressed together in response to the scrap stripper passing through the nip between the die cutting board and the anvil.

5. The rotary cutting die of claim 1 including a plurality of the scrap strippers particularly placed on the base to engage one or more cut scrap pieces and strip the one or more scrap pieces from one or more adjacent blades.

6. The rotary cutting die of claim 1 wherein prior to entering the nip, the scrap stripper assumes an erect position and upon entering the nip, the finger is closed adjacent the base and the finger and base are compressed together, and upon moving from the nip both the base and the finger expand and the finger separates from the base and moves outwardly towards the erect position and in the process the finger engages and holds the cut piece of scrap adjacent the anvil such that the anvil acts to direct the cut scrap away from the die cutting board and anvil.

7. The rotary die cutting of claim 1 wherein the scrap stripper is constructed of a closed cell rubber material having a durometer of approximately 25-60.

8. A method of cutting corrugated board passing between a rotary cutting die and an anvil, stripping one or more cut scrap pieces from a scrap cutting blade, and directing the cut scrap from the cutting die and anvil, comprising;

(a) directing a sheet of corrugated board through a nip area defined between the cutting die and anvil;

(b) cutting one or more scrap pieces from the corrugated board as the corrugated board passes through the nip;

(c) utilizing a scrap stripper having a base and a flexible, angled finger to strip the cut scrap piece from the scrap blade and to control the direction of movement of the scrap piece as the scrap piece exits the nip, and wherein the flexible finger is integral with the base and extends outwardly over the base at an acute angle with respect to the base such that an opening is defined between the angled finger and the base;

(d) compressing the scrap stripper between the cutting die and the scrap piece by bending and compressing the finger against the base, closing the opening existing between the angled finger and the base, and compressing both the finger and base as the scrap stripper moves through the nip;

(e) expanding the scrap stripper as it moves from the nip and engaging the cut scrap piece and stripping it from the scrap cutting blade; and

(f) extending the flexible finger outwardly as the scrap stripper moves from the nip and engaging the cut scrap piece with the extended finger and holding the cut scrap piece against the anvil with the finger such that the anvil tends to direct the cut scrap piece away from the nip and away from the die cutting board and anvil.

9. The method of claim 8 wherein the finger normally extends outwardly past the scrap cutting blade when it assumes a normal non-compressed posture and wherein when the scrap stripper assumes a fully compressed position both the finger and base are compressed such that together they do not extend past the height of the scrap cutting blade.

10. The method of claim 9 wherein the scrap stripper is oriented such that the finger thereof, when extended, extends in a general direction opposite a direction of travel of the die cutting board.

11. The method of claim 8 wherein the scrap stripper comprises a resilient member having a base and the finger is flexible and angled and extends from the base such that an open space is defined between the angled finger and the base.

12. The method of claim 11 wherein the angled finger is moved back against the base and the finger and the base are compressed together as the scrap stripper passes through the nip.

13. The method of claim 12 wherein the angled finger expands and extends outwardly to push the cut scrap piece against the anvil as the scrap stripper exits the nip.

14. The method of claim 13 wherein the angle formed between the base and the finger is approximately 30-75 degrees.

15. A rotary cutting die having one or more scrap strippers for stripping cut scrap pieces from one or more scrap cutting blades associated with the die cutting board comprising;

- (a) a board;
- (b) at least one blade mounted on the board for cutting scrap;
- (c) at least one resilient scrap stripper mounted on the board adjacent the scrap cutting blade for stripping a cut scrap piece from the blade; and
- (d) the scrap stripper including a base, an outer flexible portion extending outwardly over the base and at an acute angle with respect to the base and being movable back and forth between an extended position and a retracted position, and an open relief

area defined intermediately between the outer portion and the base within the scrap stripper that permits the outer flexible portion to flex back and forth between the extended and retracted positions.

16. The cutting die of claim 15 wherein the rotary die cutting die is adapted to work in conjunction with a rotary anvil; and wherein the outer portion of the scrap stripper flexes backwardly, in a direction generally opposite to the direction of travel of the cutting die, as the scrap stripper moves through a nip area defined between the cutting die and the anvil.

17. The rotary cutting die of claim 16 wherein the outer portion of the scrap stripper includes a flexible finger that is disposed at an angle with respect to the base and wherein the open relief area is defined between the angled finger and the base.

18. The rotary cutting die board of claim 15 wherein the scrap stripper is constructed of a rubber material having a durometer of approximately 25-60.

19. The rotary cutting die of claim 17 wherein the open relief area is formed by a portion of the angled finger and a portion of the base, and wherein the open relief area is opened along one side opposite where the finger and base merge.

20. The rotary cutting die of claim 18 wherein the scrap stripper includes a finger that forms an angle of approximately 30-75 degrees with the base.

21. The rotary cutting die of claim 15 wherein the open relief area is surrounded by the base and outer flexible portion of the resilient scrap stripper.

24. The rotary cutting die of claim 15 wherein the scrap stripper is selectively weighted.

26. The rotary cutting die of claim 24 wherein the cutting die is operative to cooperate with an anvil and wherein the scrap stripper includes a weighted portion that is generally urged outwardly from the board of the cutting die under the influence of centrifigual force as the scrap stripper exits a nip area defined between the cutting die and the anvil.